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The Delphion Integrated View: INPADOC RecordGet Now: ☒ PDF | [File History](#) | [Other choices](#)Tools: Add to Work File: [Create new Work File](#)View: Jump to: Go to: [Derwent](#) [Email](#)Title: **JP11512337T2:**Derwent Title: Self-cleaning photocatalytic coating - of crystalline titanium oxide for glass, ceramic or glass-ceramic substrate [\[Derwent Record\]](#)Country: **JP Japan**Kind: **T2 Publ. unexam. Pat. Appl. based on Internat. Appl. i**

Inventor: see Assignee

Assignee: None

Published / Filed: **1999-10-26 / 1996-09-13**Application Number: **JP1996000511722**

IPC Code: Advanced: **C03C 17/00; C03C 17/25; C03C 17/34; C04B 41/45; C04B 41/52; C04B 41/81; C04B 41/89; G02F 1/1333; G02F 1/1335; G02F 1/153; G02F 1/157;**
 Core: **G02F 1/01; more...**
 IPC-7: **B01J 35/02; C03C 17/00; C09D 5/00; C09D 7/12;**

ECLA Code: **C03C17/00B2; C03C17/00D2; C03C17/25C; C03C17/34D2; C03C17/34D4D; C04B41/45B30; C04B41/52; C04B41/81; C04B41/89; G02F1/1333;**

Priority Number: 1996-09-13 **WO1996FR0001421**
 1995-09-15 **FR1995000010839**

INPADOC Legal Status: None **Get Now: Family Legal Status Report**

Designated Country: AL AM AP AZ BB BG BY CA CN EE GE HU IL IS JP KE KG KP KR KZ LK LR LS LT BE CH FI GB IE IT LI

Family:



PDF	Publication	Pub. Date	Filed	Title
	WO9710186A1	1997-03-20	1996-09-13	PHOTOCATALYTIC COATING SUB
	US20040216487A1	2004-11-04	2004-06-01	Substrate with a photocatalytic coati
	US20030207028A1	2003-11-06	2003-04-22	Substrate with a photocatalytic coati
	US20020169204A1	2002-11-14	2002-06-26	Use of triaqua-mu3-oxohekakis-mu-propionatotrichromium(1+), [Cr3O(O2CCH2CH3)6(H2O)3]+, as a nutrit supplement or in treatment of medica
	US20020150681A1	2002-10-17	2002-04-05	Substrate with a photocatalytic coati
	US20020136934A1	2002-09-26	2002-02-22	Substrate with a photocatalytic coati
	US20020119307A1	2002-08-29	2002-02-22	Substrate with a photocatalytic coati
	US20020110638A1	2002-08-15	2002-02-22	Substrate with a photocatalytic coati

	US20020071956A1	2002-06-13	2001-12-04	Substrate with a photocatalytic coatir
	US20020028361A1	2002-03-07	2001-08-08	Substrate with a photocatalytic coatir
	US6846556	2005-01-25	2002-04-05	Substrate with a photocatalytic coatir
	US6680135	2004-01-20	2002-02-22	Substrate with a photocatalytic coatir
	US6326079B1	2001-12-04		
	US6326079	2001-12-04	2000-07-13	Substrate with a photocatalytic coatir
	US6103363	2000-08-15	1998-05-28	Substrate with a photocatalytic coatir
	TR9800459T1	1998-06-22	1996-09-13	Fotokatalitik kaplamali taban katmani
	PT1132351T	2005-05-31	1996-09-13	SUBSTATO DE REVESTIMIENTO FOTOCATALITICO
	PT0850204T	2002-05-31	1996-09-13	SUBSTRATO PARA REVESTIMIENTO FOTOCATALITICO
	PL0325527A1	1998-08-03	1996-09-13	PHOTOCATALYTIC COATING CAR SUBSTRATE
	JP2006247652A2	2006-09-21	2006-03-22	
	JP2005225758A2	2005-08-25	2005-03-14	SUBSTRATE WITH PHOTOCATALYTIC COATING
	JP2005213142A2	2005-08-11	2005-03-14	SUBSTRATE PROVIDED WITH PHOTOCATALYST COATING
	JP2005205411A2	2005-08-04	2005-03-14	SUBSTRATE WITH PHOTOCATALYTIC COATING
	JP2005199275A2	2005-07-28	2005-03-14	BASE MATERIAL HAVING PHOTOCATALYTIC COATING
	JP11512337T2	1999-10-26	1996-09-13	
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	ES2236066T3	2005-07-16	1996-09-13	SUSTRATO CON REVESTIMIENTO FOTOCATALITICO.
	ES2168506T3	2002-06-16	1996-09-13	SUSTRATO CON REVESTIMIENTO FOTOCATALITICO.
	EP1518836A3	2006-05-17	1996-09-13	Substrate with photocatalytic coating
	EP1518836A2	2005-03-30	1996-09-13	Substrate with photocatalytic coating
	EP1132351B1	2005-01-12	1996-09-13	Substrate with photocatalytic coating
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	EP0850204B1	2001-12-05	1996-09-13	PHOTOCATALYTIC COATING SUBSTRATE
	EP0850204A1	1998-07-01	1996-09-13	PHOTOCATALYTIC COATING SUBSTRATE
	DK0850204T3	2002-04-02	1996-09-13	Substrat med fotokatalytisk overtræk
	DE69634178T2	2006-01-05	1996-09-13	Substrat mit fotokatalytischer Beschichtung
	DE69634178C0	2005-02-17	1996-09-13	Substrat mit fotokatalytischer Beschichtung
	DE69617705T2	2002-08-08	1996-09-13	SUBSTRAT MIT PHOTOKATALYTISCHER BESCHICHTUNG
	DE69617705C0	2002-01-17	1996-09-13	SUBSTRAT MIT PHOTOKATALYTISCHER BESCHICHTUNG
	DE29624395U1	2003-02-20	1996-09-13	Substrat mit photokalytischer Beschichtung
	DE29624343U1	2002-07-04	1996-09-13	Substrat mit photokatalytischer Beschichtung

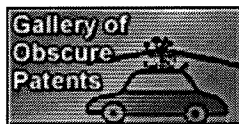
<input checked="" type="checkbox"/>	CZ9800784A3	1998-08-12	1996-09-13	SUBSTRATE WITH PHOTOCATALYTIC COATING, PROCESS OF ITS PREPARATION AND USE
<input checked="" type="checkbox"/>	BR9610604A	1999-02-17	1996-09-13	Substrato à base de vidro de cerâmica vidro-cerâmica vidraça "anti-sujeira" turvação" monolítica múltipla aplicação substrato e processo de obtenção de
<input checked="" type="checkbox"/>	AU7087596A1	1997-04-01	1996-09-13	Photocatalytic coating substrate
<input checked="" type="checkbox"/>	AT0286858E	2005-01-15	1996-09-13	SUBSTRAT MIT PHOTOKATALYTIS BESCHICHTUNG
<input checked="" type="checkbox"/>	AT0210097E	2001-12-15	1996-09-13	SUBSTRAT MIT PHOTOKATALYTIS BESCHICHTUNG
47 family members shown above				

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PDF	Patent	Pub.Date	Inventor	Assignee	Title
	US7049002	2006-05-23	Greenberg; Charles B.	PPG Industries Ohio, Inc.	Photocatalytically-activated cleaning article and method making same
	US6722159	2004-04-20	Greenberg; Charles B.	PPG Industries Ohio, Inc.	Photocatalytically-activated cleaning article and method making same

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Title: **WO9710186A1: PHOTOCATALYTIC COATING SUBSTRATE**[French]

Derwent Title: Self-cleaning photocatalytic coating - of crystalline titanium oxide for glass, ceramic or glass-ceramic substrate [Derwent Record]

Country: **WO** World Intellectual Property Organization (WIPO)Kind: **A1** Publ.of the Int.Appl. with Int.search report ¹Inventor: **BOIRE, Philippe**; 77, rue de Cambronne, F-75015 Paris, France
TALPAERT, Xavier; 184, rue de Belleville, F-75020 Paris, FranceAssignee: **SAINT-GOBAIN VITRAGE**, 18, avenue d'Alsace, F-92400 Courbevoie, France
 Corporate Tree data: Compagnie de Saint-Gobain ([STGOBAIN](#));
News, Profiles, Stocks and More about this companyPublished / Filed: **1997-03-20** / 1996-09-13Application Number: **WO1996FR0001421**IPC Code: Advanced: **C03C 17/00; C03C 17/25; C03C 17/34; C04B 41/45; C04B 41/52; C04B 41/81; C04B 41/89; G02F 1/1333; G02F 1/1335; G02F 1/153; G02F 1/157;**
Core: **G02F 1/01**; more...
IPC-7: **C03C 8/20; C03C 17/00; C03C 17/34;**ECLA Code: **C03C17/00B2; C03C17/00D2; C03C17/25C; C03C17/34D2; C03C17/34D4D; C04B41/45B30; C04B41/52; C04B41/81; C04B41/89; G02F1/1333;**Priority Number: 1995-09-15 **FR1995000010839**

Abstract: The invention relates to a glass-, ceramic- or vitro-ceramic-based substrate (1) having on at least a portion of at least one of its sides a coating (3) with photocatalytic characteristics comprising titanium oxyde which is at least partially crystallized. It also relates to applications of such substrates and its production process. \$L'invention a pour objet un substrat (1) à base verrière, céramique ou vitro-céramique, muni sur au moins une partie d'au moins une de ses faces d'un revêtement (3) a propriété photocatalytique comportant de l'oxyde de titane au moins partiellement cristallisé. Elle concerne également les applications d'un tel substrat et son mode d'obtention. [French]

Representative Image:

Attorney, Agent or Firm: **RENOUS-CHAN, Véronique** ;INPADOC [Show legal status actions](#)Get Now: [Family Legal Status Report](#)



























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Country:

AL AU BB BG BR CA CN CZ EE GE HU IL IS JP KE KP KR LK LR LS
 LT LV MG MK MN MW MX NO NZ PL RO SD SG SI SK TR TT UA
 UG US VN, **European patent:** AT BE CH DE DK ES FI FR GB GR IE
 IT LU MC NL PT SE, **OAPI patent:** BF BJ CF CG CI CM GA GN ML
 MR NE SN TD TG, **ARIPO patent:** KE LS MW SD SZ UG,
Eurasian patent: AM AZ BY KG KZ MD RU TJ TM


Family:

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	US20020119307A1	2002-08-29	2002-02-22	Substrate with a photocatalytic coatir
	US20020110638A1	2002-08-15	2002-02-22	Substrate with a photocatalytic coatir
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	US6103363	2000-08-15	1998-05-28	Substrate with a photocatalytic coatir
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	JP2005225758A2	2005-08-25	2005-03-14	SUBSTRATE WITH PHOTOCATALYTIC COATING
	JP2005213142A2	2005-08-11	2005-03-14	SUBSTRATE PROVIDED WITH PHOTOCATALYST COATING
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	JP2005199275A2	2005-07-28	2005-03-14	BASE MATERIAL HAVING PHOTOCATALYTIC COATING
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	DE69634178C0	2005-02-17	1996-09-13	Substrat mit fotokatalytischer Besch
<input checked="" type="checkbox"/>	DE69617705T2	2002-08-08	1996-09-13	SUBSTRAT MIT PHOTOKATALYTIS BESCHICHTUNG
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47 family members shown above				

 **First Claim:**
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REVENDECATIONS 1 . Substrat (1) à base verrière, céramique ou vitro- céramique, muni sur au moins une partie d'au moins une de ses faces d'un revêtement (3) à propriété photo-catalytique comportant de l'oxyde de titane au moins partiellement cristallisé.

 **Description**
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+ SUBSTRAT A REVETEMENT PHOTOCATALYTIQUE 5
L'invention concerne des substrats à base verrière, céramique ou vitro- céramique, plus particulièrement en verre, notamment transparents, que l'on munit de revêtements à propriétés photo-catalytiques, en vue de fabriquer des vitrages d'applications diverses, comme les vitrages utilitaires, vitrages pour véhicules ou pour bâtiments.







De plus en plus, on cherche à fonctionnaliser les vitrages en déposant à leur surface des couches minces destinées à leur conférer une propriété particulière selon l'application visée. Ainsi, il existe des couches à fonction optique, comme les couches dites anti-reflet composées d'un empilement de couches alternativement à haut et bas indices de réfraction. Pour une fonction anti-statique, ou chauffante du type anti-givre, on peut aussi prévoir des couches

minces conductrices électriquement, par exemple à base de métal ou d'oxyde métallique dopé. Pour une fonction thermique, de bas-émissivité ou anti-solaire par exemple, on peut se tourner vers des couches minces en métal du type argent ou à base de nitrure ou d'oxyde métallique. Pour obtenir un effet « anti-pluie », peuvent être prévues des couches à caractère hydrophobe, par exemple à base d'organo-silane fluoré. Cependant, il existe encore un besoin pour un substrat, notamment un vitrage que l'on pourrait qualifier « d'anti-salissures », c'est-à-dire visant la permanence dans le temps des propriétés d'aspect et de surface, et permettant notamment d'espacer les nettoyages et/ou d'améliorer la visibilité, en parvenant à éliminer au fur et à mesure les salissures se déposant progressivement à la surface du substrat, notamment les salissures d'origine organique comme les traces de doigts ou des produits organiques volatils présents dans l'atmosphère, ou même des salissures du type buée.

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References:

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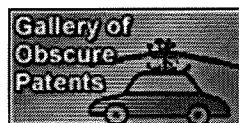
PDF	Patent	Pub.Date	Inventor	Assignee	Title
	US7049002	2006-05-23	Greenberg; Charles B.	PPG Industries Ohio, Inc.	Photocatalytically-ac cleaning article and i making same
	DE10158433B4	2006-05-18	Sepeur, Stefan, Dr.	NANO-X GmbH	Beschichtung
	US6939611	2005-09-06	Fujishima; Akira	Kanagawa Academy of Science and Technology	Window glass emplo titanium dioxide phot
	US6875319	2005-04-05	Nadaud; Nicolas	Saint-Gobain Glass France	Substrate with photo coating
	US6846556	2005-01-25	Boire; Philippe	Saint-Gobain Glass France	Substrate with a pho coating
	US6840061	2005-01-11	Hurst; Simon James	Libbey-Owens- Ford Co.	Coatings on substrat
	US6824826	2004-11-30	Amadelli; Rossano	Italcementi S.p.A.	Use of photocatalytic preparations of collo dioxide for preservin original appearance cementitious, stone, products
	US6733889	2004-05-11	Varanasi; Srikanth K.	Pilkington North America, Inc.	Reflective, solar con glass article
	US6720066	2004-04-13	Talpaert; Xavier	Saint-Gobain Glass France	Substrate with a pho coating
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	US6465088	2002-10-15	Talpaert; Xavier	Saint-Gobain Glass France	Substrate with a pho coating
	US6413581	2002-07-02	Greenberg; Charles B.	PPG Industries Ohio, Inc.	Photocatalytically-ac cleaning article and i making same

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	US6312131	2001-11-06	Yamamoto; Toru	Nippon Sheet Glass Co., Ltd.	Hydrophilic mirror an of producing the sam
	US6312831	2001-11-06	Crawley; Richard Lee	Visteon Global Technologies, Inc.	Highly reflective, dur titanium/tin oxide film
	US6238738	2001-05-29	McCurdy; Richard J.	Libbey-Owens- Ford Co.	Method for depositin oxide coatings on fla
	US6054227	2000-04-25	Greenberg; Charles B.	PPG Industries Ohio, Inc.	Photocatalytically-ac cleaning appliances
	US6027766	2000-02-22	Greenberg; Charles B.	PPG Industries Ohio, Inc.	Photocatalytically-ac cleaning article and i making same

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